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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,876	11/26/2001	Michihiro Ohsuge	016778-0440	3247

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EXAMINER	
PATHAK, SUDHANSHU C	

ART UNIT	PAPER NUMBER
2634	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief	**Application No.** 09/991,876	**Applicant(s)** OHSUGE, MICHIHIRO	
	Examiner Sudhanshu C. Pathak	**Art Unit** 2634	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED October 28th, 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☒ The period for reply expires 6 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: _____.

   Claim(s) objected to: *4,5,8,9,12,15 and 16*.

   Claim(s) rejected: *1-3,6,7,10,11,13 and 14*.

   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____
13. ☒ Other: See Attached Response to Arguments.

Response to Arguments

1. Applicant's arguments filed on October 28th, 2005 have been fully considered but they are not persuasive. In regards to the Arguments presented that the Watanabe reference does not teach "keeping (storing) the maximum value"; the Watanabe reference (6,044,104) is used to disclose the limitation of "dividing the delay profile into a plurality of data blocks". The Kaku reference (5,812,593) discloses determining the peak value of the correlation results. In regards to the Arguments presented that "the applicant cannot find any teaching, in the Sourour reference, of storing the maximum value...."; the Sourour reference (WO 99/35763) discloses computing the delay profile and storing the correlation results and once the correlations are complete selecting the largest power peak (Specification, Page 7, lines 2-27 & Fig. 6, elements 661-663). Sourour further discloses computing and storing a metric that represents a quality of the correlation and the delay estimate (Specification, Page 12, lines 23-27 & Specification, Page 13, lines 1-6 & Fig. 9 & Fig. 10, elements 1002, 1010, 1014 & Fig. 12, elements 1204, 1214, 1220). Furthermore, the Office has provide a motivation for the combination of each of the references and the references as a whole meet the limitations in the claims. The rejection of the amended Claim 1 is included below:
2. Claim 1 (amended - is also Claim 3 original) is rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant Admitted Prior Art

(AAPA) in view of Kaku (5,812,593) in further view of Watanabe (6,044,104) in further view of Sourour et al. (WO 99/35763).

Regarding to Claim 1, the Applicant Admitted Prior Art (AAPA) discloses a CDMA receiver for receiving plurality of transmissions or propagation paths collectively called multipath signals (Specification, Page 1, line 15-to-Page 2, line 14). The AAPA also discloses the receiver comprises a searcher for carrying out the detection of the multipaths and a rake combining receiver for demodulating (despreading) and combining the detected multipaths for further processing (Specification, Page 2, lines 15-24). The AAPA also discloses the searcher measures the delay profile of the received signals to detect the multipaths of the received signals (Specification, Page 2, line 25-to-Page 3, line 5). The AAPA further discloses a matched filter for measuring the delay profile data of the multipath by calculating the correlation value (Specification, Page 5, lines 11-23 & Specification, Page 17, 1-8). The AAPA further discloses a method of subsequently detecting peaks comprising masking a neighboring time region of the delay profile data adjacent to the previous peak to obtain renewed delay profile data and determining, from the renewed delay profile data, a specific one of the data blocks that includes the previous peak (Specification, Page 4, lines 1-12). However, the AAPA does not specify dividing the delay profile into a plurality of data blocks and searching the maximum value of the delay profile at every data block and storing each maximum value at every data block to detect the peak.

Kaku discloses a method and apparatus for demodulating a received signal in a spread spectrum receiver (Abstract, lines 1-4 & Column 1, lines 5-20 & Fig. 1a-b). Kaku also discloses the receiver comprising a RAKE demodulator and a search correlator for receiving signals in a multipath environment (Fig. 6, elements 25, 26 & Column 1, lines 28-39). Kaku discloses the search correlator obtains the correlation results of a pilot signal and a despread code and extracts the peak correlation results and places them in decreasing order of value (Abstract, lines 12-23 & Fig. 6, elements 26, 27, 29, 30 & Column 4, lines 1-23). Kaku also discloses executing the search processing by computing the delay profile of the search signals to obtain the despread code phases used for the RAKE demodulation (Fig. 2 & Fig. 8 & Column 2, lines 55-67 & Column 3, lines 1-5 & Column 4, lines 22-55 & Column 8, lines 45-67). Kaku discloses determining the peak value of the correlation results from the delay profile by comparing the correlation output from the search correlator with immediately preceding and succeeding correlation results and performing the searching based on the shape of the delay profile (Column 4, lines 20-55). Kaku also discloses using the peak code phases (timing) which were extracted to accurately demodulating the information (data) using the RAKE receiver (Column 5, lines 35-62 & Column 6, lines 45-58 & Fig. 6, elements 28, 25). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Kaku teaches a method and a corresponding apparatus for determining accurately the maximum values of the correlative peaks of the delay profile and this can

be implemented in the receiver as described in the AAPA so as to accurately detect the multipath peaks and avoid false detection of the multipath peaks. However, the AAPA in view of Kaku does not specify dividing the delay profile into a plurality of data blocks. AAPA in view of Kaku does not also explicitly disclose storing the maximum value of the delay profile.

Watanabe discloses search control means of a mobile station apparatus which divides the search window into a number of search widths each width corresponding to a number of search correlators wherein each correlator carries out correlative detection about these divided search widths (Abstract, lines 1-6 & Fig. 's 1, 5, elements 3, 8 & Fig. 2 & Column 4, lines 5-18, 44-57). Watanabe further discloses the search control section rearranges the correlated values in order of electrical power and demodulates the incoming multipath signals from the timing input from the search correlators and the search control section (Column 3, lines 35-67 & Column 4, lines 19-40 & Fig. 1 & Abstract, lines 6-12). Watanabe also discloses obtaining the correlative values within each window and judging the maximum value for each window (Column 4, lines 44-50). Watanabe further discloses each sub window provides the peak for each sub window at a different time interval provided by the clock generator (Fig. 2 & Column 4, lines 1-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Watanabe teaches dividing the search window of a mobile station into multiple sub windows and this method and apparatus can be implemented in the mobile receiver as described in the AAPA in view of Kaku so as to provide

a highly reliable high speed, by minimizing the searching steps to determine the peaks and avoiding false detection by eliminating the need for setting thresholds, searcher for allowing the reduction of power consumption of the mobile unit without deteriorating the search performance. However, the AAPA in view of Kaku in further view of Watanabe does not also explicitly disclose storing the maximum value of the delay profile.

Sourour discloses a method and apparatus for multipath delay estimation in a spread spectrum communication system (Abstract, lines 1-2 & Specification, Page 1, lines 9-29 & Fig. 3). Sourour also discloses implementing a RAKE receiver to receive the transmitted signal including a delay searcher (Specification, Page 2, lines 10-32 & Specification, Page 6, lines 10-21). Sourour also discloses computing the delay profile and storing the correlation results and once the correlations are complete selecting the largest power peak (Specification, Page 7, lines 2-27). Sourour also discloses using these peak values and corresponding delays and then assign them to the rake fingers (Specification, Page 7, lines 28-31 & Fig. 5 & Fig. 6 & Fig. 7, elements 771, 772, 773, 779 & Fig. 9, elements 991, 992, 993, 994). Sourour also discloses computing and storing a metric that representing the quality of the correlation and the delay estimate (Specification, Page 12, lines 23-27 & Specification, Page 13, lines 1-6 & Fig. 9 & Fig. 10, elements 1002, 1010, 1014 & Fig. 12, elements 1204, 1214, 1220). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Sourour teaches storing the peaks of the correlated delay profile and this can

be implemented in the mobile receiver as described in the AAPA in view of Kaku in further view of Watanabe so as to provide the possibility of implementing an algorithm as described in Watanabe so as to provide an accurate computation of an error metric on the stored values (peaks) thus allowing a more accurate detection of the received signals in a highly noisy fading channel.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhanshu C. Pathak whose telephone number is (571)-272-3038. The examiner can normally be reached on M-F: 9am-6pm.

    - If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571)-272-3056
    - The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sudhanshu C. Pathak

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